CAIT
Center for Advanced Infrastructure & Transportation
Rutgers, The State University of New Jersey

QUARTERLY PROGRESS REPORT

Project Title:	Seismic Analysis of Retaining Walls, Buried Structures, Embankments, and Integral Abutments
RFP NUMBER: 2000-25	NJDOT RESEARCH PROJECT MANAGER: Mr. Anthony Chmiel
TASK ORDER NUMBER/Study Number: Task Order No. 127 / 4-26995	PRINCIPAL INVESTIGATOR: Dr. Husam Najm
Study Start Date: 01/01/2003 Study End Date: 12/31/2004	Period Covered: 4th Quarter 2003

Task	% of Total	% of Task this quarter	% of Task to date	% of Total Complete
Literature Review on Seismic Design of Abutments, Retaining Structures, Buried Structures, and Embankments	10	20	80	8
Provide Analysis, Design, and Detailing of Free Standing Abut and Retaining Walls	20	20	50	10
Provide Analysis, Design, and Detailing of Integral (Diaphragm) Abutments	20	20	50	10
Provide Guide Specifications Manual to Assist Designers in Designing Free-Standing and Integral Abutments, Embankments, Buried Structures and Retaining Walls	30	20	40	12
Prepare Progress reports	10	10	4	5
Prepare Technical Memorandum and Final Report	10	5	4	4
TOTAL	100%	20	44	49

1. Progress this quarter by task:
   Submitted a paper to US-PRC Conference on seismic design of bridges in NJ comparing new provisions to existing provisions. Two typical examples were evaluated for both new and old provisions. Transverse requirements in columns could change significantly for large columns with larger bars. PB started working on detailed example that will be part of the final report. A summary of existing research and available data on response of retaining walls to earthquake was prepared and will be presented.

2. Proposed activities for next quarter by task:
   Collect site-specific response spectra for various available projects in NJ and NY area. Ask bridge office at NJDOT if they have site-specific info from previous projects. Prepare a database and use it to assess these spectra with those specified in NCHRP provisions. PB will work on detailed example for integral abutment. Continue working on design criteria and guidelines. Update draft of final report based on comments form NJDOT customer and research manager.

3. List of deliverables provided in this quarter by task (product date):
   Analysis and design results of typical examples. US-PRC Conference paper on seismic design of bridges in NJ

4. Progress on Implementation and Training Activities: None

Department of Civil and Environmental Engineering
623 Bowser Rd. Piscataway NJ 08854-8014
Tel: 732-445-0579 Fax: 732-445-0577

5. Problems/Proposed Solutions:
None

6. Budget Summary*

Total Project Budget (# of years)	1 Year	$173,017
Total Project Expenditure to date		$94,132
% of Total Project Budget Expended		54%
Task Order Number/Study Number:		127 / 4-26995
Current Task Order Budget (# of years)	Year 1	$173,017
Actual Expenditure to date against current task order		$94,132
% of current task order budget expended		54%

* These are approximate expended amounts for the project; these estimates are for reference only and should not be used for official accounting purposes. For a more accurate project accounting please review the quarterly invoice for this project.